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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,527	04/01/2004	Nagesh R. Basavanhally	33-8-5	9904

7590

09/30/2005

Lucent Technologies Inc.
Docket Administrator - Room 3J-219
101 Crawfords Corner Road
Holmdel, NJ 07733-3030

EXAMINER

ROSE, KIESHA L

ART UNIT

PAPER NUMBER

2822

DATE MAILED: 09/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/816,527

Applicant(s)

BASAVANHALLY ET AL.

Examiner

Kiesha L. Rose

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/6/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the filing of the application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3,5-8 and 13-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Dub row et al. (U.S. Publication 2005/0066883).

Dub row discloses a nanostructure device (Fig. 1) that contains a first surface (102), a second surface (108), a plurality of nanostructures (106) disposed on at least one of first surface or second surface, means for attaching first surface and second surface in a way such that nanostructures form at least a first conductive connection between first and second surfaces, the conductive connection comprises thermal and electrical connections and where the first surface of nanostructures are adapted to adhere to second surface via attractive forces between molecules of at least a portion of nanostructures in a plurality of nanostructures and second surface, wherein the

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attractive forces comprise attractive intermolecular forces such as Van Der Waals forces and dipole-dipole forces. (Page 4, Paragraph 28)

Claims 9-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Stasiak (U.S. Patent 6,828,685).

Stasiak discloses a memory device (Fig. 2) that contains a first surface (224), second surface (220), a first plurality of electrical contacts (250) disposed on the first surface, a second plurality of electrical contacts (240) disposed on the second surface, wherein the first plurality and second plurality are adapted to transfer thermal or electrical energy from first to second plurality. The electrical contacts can be formed as nanostructures. (Column 11, Lines 24-58)

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 9-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown et al. (U.S. Patent 6,340,822).

Brown discloses a nano-interconnected circuit (Fig. 6) that contains a first surface (10), a second surface (10'), a first plurality of nanostructures (4a) disposed on the first surface, a second plurality of nanostructures (4b) on second surface, means for attaching first surface and second surface in a way such that nanostructures form at least a first conductive connection between first and second surfaces, the conductive connection comprises thermal and electrical connections and where the first surface of nanostructures are adapted to adhere to second surface via attractive forces between molecules of at least a portion of nanostructures in a plurality of nanostructures and second surface.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dubrow in view of Stasiak.

Dubrow discloses all the limitations except for a first plurality of nanostructures on a first surface and plurality of second plurality of nanostructures on the second surface. Whereas Stasiak discloses a memory device (Fig. 2) that contains a first surface (224), second surface (220), a first plurality of electrical contacts (250) disposed on the first surface, a second plurality of electrical contacts (240) disposed on the second surface, wherein the first plurality and second plurality are adapted to transfer thermal or electrical energy from first to second plurality. The electrical contacts can be formed as nanostructures. (Column 11, Lines 24-58) The first surface has a plurality of nanostructures and the second surface has a plurality of nanostructures to electrically couple first plurality to the second surface and couple second plurality to the first surface. (Column 5, Lines 20-29) Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Dubrow by incorporating a first plurality of nanostructure on the first surface and a second plurality of nanostructure on the second surface to electrically couple first plurality to the second surface and couple second plurality to the first surface as taught by Stasiak.

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Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown in view of Dub row.

Brown discloses all the limitations except for an attractive force between the first and second plurality of nanostructures to be an intermolecular force. Whereas Dub row discloses a nanostructure device (Fig. 1) that contains a first surface (102), a second surface (108), a plurality of nanostructures (106) disposed on at least one of first surface or second surface, means for attaching first surface and second surface in a way such that nanostructures form at least a first conductive connection between first and second surfaces, the conductive connection comprises thermal and electrical connections and where the first surface of nanostructures are adapted to adhere to second surface via attractive forces between molecules of at least a portion of nanostructures in a plurality of nanostructures and second surface, wherein the attractive forces comprise attractive intermolecular forces such as Van Der Waals forces and dipole-dipole forces. The nanostructures are connected to each other by intermolecular forces to take advantage of natural forces such as Van Der Waals forces for fixing means. (Page 4, Paragraph 28) Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Brown by incorporating the nanostructures to be connected by intermolecular forces to take advantage of natural forces such as Van Der Waals forces for fixing means as taught by Dub row.

Conclusion

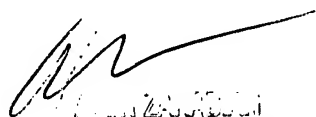
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiesha L. Rose whose telephone number is 571-272-1844. The examiner can normally be reached on M-F 8:30-6:00 off 2nd Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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AMIR ZARABIAN
EXAMINER